



San Luis Obispo County
Los Osos Wastewater Project Development

TECHNICAL MEMORANDUM

IMPORTED WATER

FINAL DRAFT

March 2008

San Luis Obispo County
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1.0 PURPOSE

The purpose of this technical memorandum is to identify the challenges and opportunities of potential sources of water for the community of Los Osos from outside the groundwater basin.

The Viable Project Alternatives Fine Screening Analysis (prepared by the County's project team, August 2007) identified and developed options for wastewater treatment and disposal. While importing water from outside the basin is not a function of a community wastewater project, it remains an option for future consideration by the Los Osos community water purveyors for solving the current basin overdraft.

2.0 INTRODUCTION

Los Osos is facing major water resources issues due to seawater intrusion into the groundwater basin. The community of Los Osos currently relies entirely on its underlying groundwater for water supply and seawater is intruding into the lower aquifer. Various options are being considered to remedy this seawater intrusion and overdraft problem. One potential solution is to introduce a new water source into the community.

The water potentially brought into Los Osos from outside the groundwater basin is termed "imported water." If imported water is brought into Los Osos, it would be used to meet the potable demand of Los Osos. By using imported water for the potable needs of the community, the amount of water needed to be pumped from the groundwater basin would be reduced, thus mitigating the seawater intrusion that is currently taking place. The mitigation benefits of the reduced pumping is dependent on the location of where that pumping is being replaced (e.g., the closer to the bay that pumping is reduced, the greater the seawater intrusion benefit).

3.0 QUANTITY OF WATER TO BE IMPORTED

Since the purpose of importing water would be to introduce a new supply to mitigate seawater intrusion, the quantity of water to be imported is calculated based on the level of mitigation desired. Five levels of mitigating seawater intrusion were defined in the Fine Screening Analysis.

Table 1 describes the quantitative mitigation benefits of each of the levels.

Table 1 Levels of Seawater Intrusion Mitigation (Project Benefits)⁽¹⁾ Los Osos Wastewater Project Development San Luis Obispo County				
Level	Absolute Volume Mitigated (AFY)⁽²⁾	Project Impact, Relative to Current Conditions (AFY)	Overall Basin Balance (at Current Pumping Rates) (AFY)	Description
Level 0	0	-90	-550	No mitigation of seawater intrusion
Level 1	90 to 140	0 to 50	-460 to -410	Mitigation of seawater intrusion similar to current conditions
Level 2	190 to 240	100 to 150	-360 to -310	Maximum mitigation of seawater intrusion possible without purveyor participation
Level 3	550 to 600	460 to 510	0 to 50	Achievement of a balanced basin at present water use rates
Level 4 ⁽³⁾	780 to 830	690 to 740	230 to 280	Achievement of a balanced basin at buildout
Notes: (1) In addition to the benefits associated with complying with the WDR. (2) One acre-foot/year (AFY) is equal to 892 gallons per day (gpd). (3) Levels 3 and 4 are possible to achieve, but only with extensive infrastructure reconfiguration by the water purveyors.				

Imported water can be used to mitigate sea water intrusion by reducing the amount of lower aquifer groundwater needed to meet the community water demand. Based on the groundwater model developed by Cleath and Associates, reducing pumping of lower aquifer groundwater on the West side of the basin has a maximum mitigation factor of 0.55. Achieving a balanced basin at current levels of water demand requires eliminating approximately 500-acre-feet per year (AFY) of sea water intrusion. Therefore, the amount of imported water needed to achieve a balanced basin, assuming no other changes, would be approximately 900 AFY (500 AFY divided by the mitigation factor 0.55).

Currently, the community's water purveyors are considering other efforts that would reduce seawater intrusion. Those efforts could therefore reduce the estimated 900 AFY of imported water required. At the community's build-out, however, (Level 4), water demand would increase. Consequently, final estimates of the need for imported water, if any, will be known only after the community's water purveyors have completed further evaluation of their groundwater management options – including the options that they may choose to pursue regarding re-use of treated effluent from a community wastewater project.

4.0 POTENTIAL SOURCES

The potential sources of imported water for Los Osos are State Water Project water, and Nacimiento water.

There has been some discussion with reference to the Clark Valley Watershed also being a potential source of imported water. The Clark Valley watershed drains to Los Osos Creek, which flows into the groundwater basin near the Los Osos Valley Equine Farms (Gorby Site) at the south end of the Los Osos Creek valley. The watershed drainage area upstream of the groundwater basin limits is approximately 7 square miles. Golden State Water Company had expressed interest in developing a well field at the southernmost end of the creek valley, since it is relatively close to its Bayview Heights system. This well field, if feasible, would not be a source of imported water, but would tap unconsolidated sediments within the groundwater basin. However, since the water from this watershed presently flows into the Los Osos groundwater basin, it is not a source of “imported water” and is thus not discussed further in this memorandum.

4.1 State Water Project Water

The State Water Project (SWP) is the largest State-built water and power development and conveyance system in the United States. Consisting of 17 pumping plants, 8 hydroelectric power plants, 29 dams and reservoirs, and 675 miles of aqueducts and pipelines, the SWP conveys around 2.4 million AFY to its 29 long-term contractors, and several other agencies. Figure 1 shows the State Water Project conveyance system.

The State Water Project has various branches off the California aqueduct, and the branch that would potentially supply water to Los Osos is the Chorro Valley Pipeline of the Coastal Branch. The Coastal Branch of the SWP consists of water conveyance facilities built by the California Department of Water Resources (DWR) and regional distribution and treatment facilities constructed by the Central Coast Water Authority (CCWA). Figure 2 shows the Coastal Branch of the SWP.

Although Phase 1 of the Coastal Branch (indicated in Figure 2) was completed in 1968, Phase 2, which brings water to San Luis Obispo and Santa Barbara Counties, was only completed in 1997. Phase 2 includes the 43 mgd Polonio Pass Treatment Plant (PPTP), 143 miles of pipeline, and additional pumping and storage facilities.

While the Coastal Branch was built by both DWR and CCWA, only CCWA is responsible for operating and maintaining the PPTP and all downstream Coastal Branch facilities. Contractual issues associated with connecting to the State Water Project are discussed further in 4.1.6.

4.1.1 Bringing State Water to Los Osos

During the Environmental Impact Report preparation stage for Phase 2 of the Coastal Branch, inclusions and provisions were made for all potential future users of State water. A provision of 300 AFY was made by San Luis Obispo (SLO) County for Los Osos. However since none of the Los Osos water purveyors contracted for any State Water, it was never included in any initial contracts, and thus the Chorro Valley pipeline was not designed to accommodate its needs.



Figure 1
NAMES AND LOCATIONS OF
PRIMARY WATER DELIVERY FACILITIES
STATE WATER PROJECT
LOS OSOS WASTEWATER PROJECT DEVELOPMENT
SAN LUIS OBISPO COUNTY

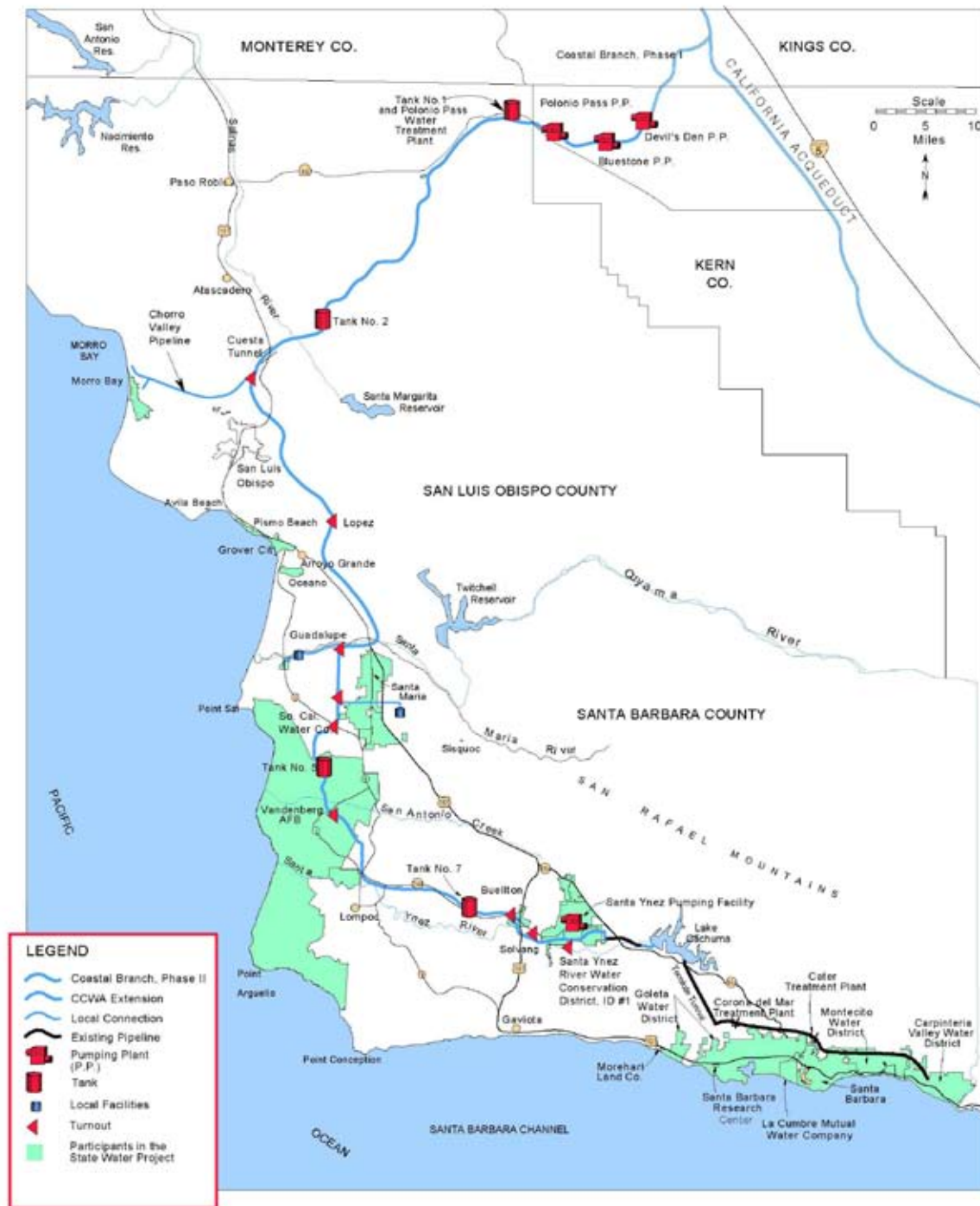


Figure 2
COASTAL BRANCH
STATE WATER PROJECT
LOS OSOS WASTEWATER PROJECT DEVELOPMENT
SAN LUIS OBISPO COUNTY

Presently the peak seasonal requirements of the City of Morro Bay take up all the capacity of the Chorro Valley pipeline. Therefore, Los Osos would have to pump during off peak seasons to take advantage of any available capacity for importing water.¹

Connecting to State Water could pose several engineering, environmental, contractual, financial, and public sentiment challenges. This technical memorandum serves only as an initial exploratory exercise, and further detailed analysis would be necessary to formulate a plan for connecting to State Water if this option is explored further. Presented in the following paragraphs is a discussion of possible pipeline alignment, environmental impacts, reliability of state water, initial cost estimates, contractual issues, and public sentiment regarding State Water.

4.1.2 Pipeline Alignment and Connection

Shown on Figure 3 is one alternative alignment for bringing State Water into Los Osos. An approximate 3-mile pipeline would be designed and constructed from the Chorro Valley pipeline to Los Osos.

A turnout (in the form of a tee with a blind flange) exists for Los Osos on the Chorro Valley pipeline at South Bay Boulevard. The Public Works Department at the County has indicated the size of the tee to be 10 inches diameter. The proposed connection to the State Water Project ties into this turnout, and runs along South Bay Boulevard into Los Osos.

4.1.3 Environmental Impacts of Proposed Pipeline Alignment

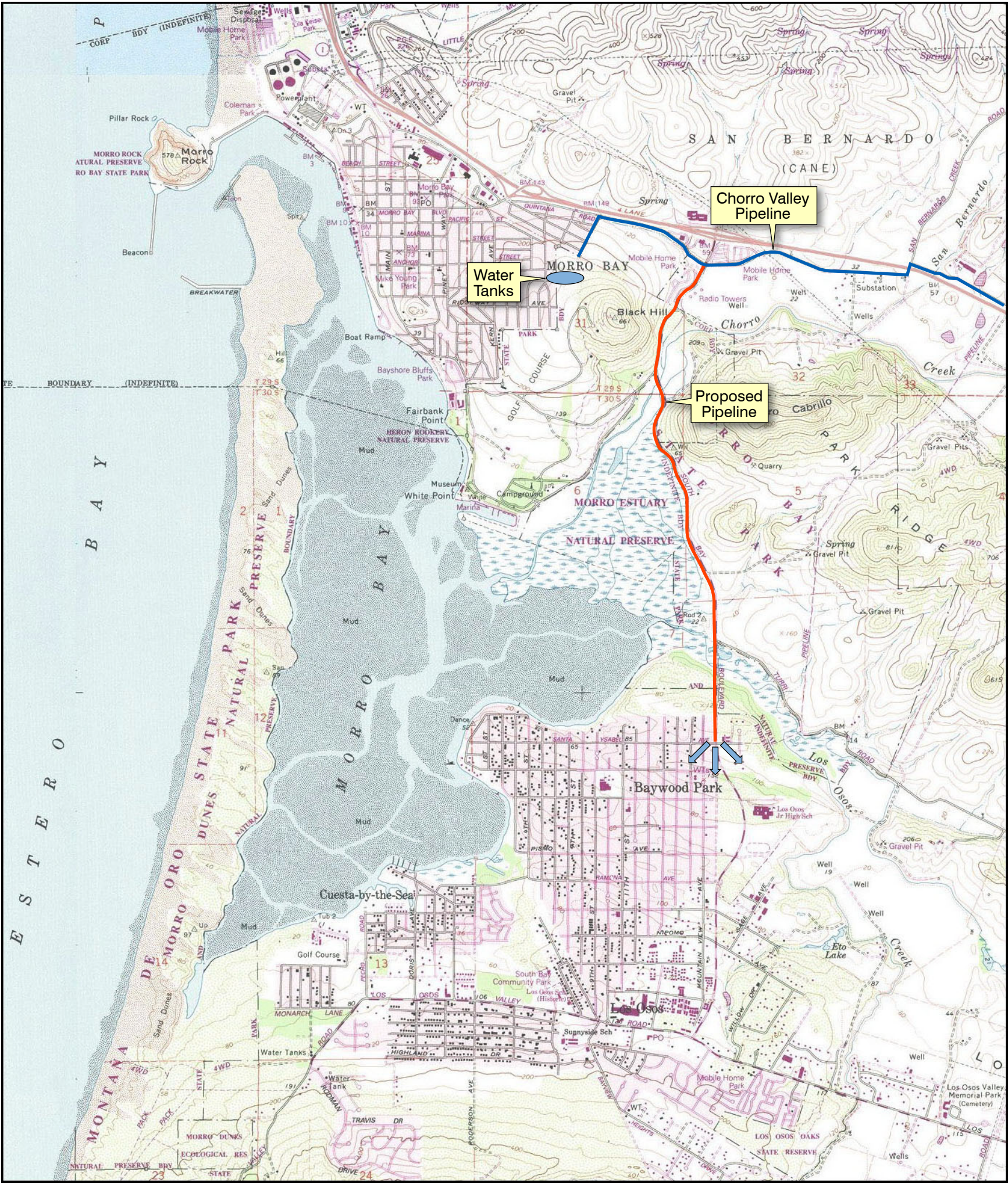
The pipeline route shown in Figure 3 passes through Morro Bay State Park. However, South Bay Boulevard is owned partly by the County of San Luis Obispo, and partly by the City of Morro Bay. Thus running the pipeline along South Bay Boulevard would require the permission of both the County and the City of Morro Bay, and not of the State Park². However, since the pipeline would be running adjacent to sensitive habitat, it would likely require additional environmental impact assessment and numerous mitigation measures during construction.

It is likely that permits would need to be obtained from the California Coastal Commission, California Department of Fish and Game, and the US Army Corps of Engineers.

It is difficult to predict how obtaining the above permits would impact project schedule without a full analysis of the environmental impact of the pipeline route conducted by an EIR consultant. However, it is anticipated that negotiation of regulatory permits of this or some similar alignment would take over a year.

¹ Based on phone conversation with San Luis Obispo County Public Works staff.

² Based on phone conversations with the staff of Crawford Multari and Clark Associates, and San Luis Obispo County Public Works staff.



LEGEND

Chorro Valley Turnout (existing facility)

Proposed Pipeline Alignment to Los Osos (new facility)

SCALE

0

1,000

2,000

Feet



Figure 3
PROPOSED CONNECTION TO STATE WATER PROJECT
LOS OSOS WASTEWATER PROJECT DEVELOPMENT
SAN LUIS OBISPO COUNTY

4.1.4 Reliability of State Water

Reliability of a new water supply is an important consideration for any community both from a standpoint of water quality and quantity.

4.1.4.1 *Water Quality*

The SWP Coastal Branch is treated to Department of Public Health (DPH) drinking water standards at the Polonio Pass Water Treatment Plant using advanced coagulation, activated carbon filters, chlorine, and chloramines. Algae, taste and odor, and disinfection byproduct formation are potential issues connected to water quality that may affect recipients of State Water Project.³ That being said, treated water delivered from the Coastal Branch Aqueduct meets all the primary and secondary drinking water standards for potable water.

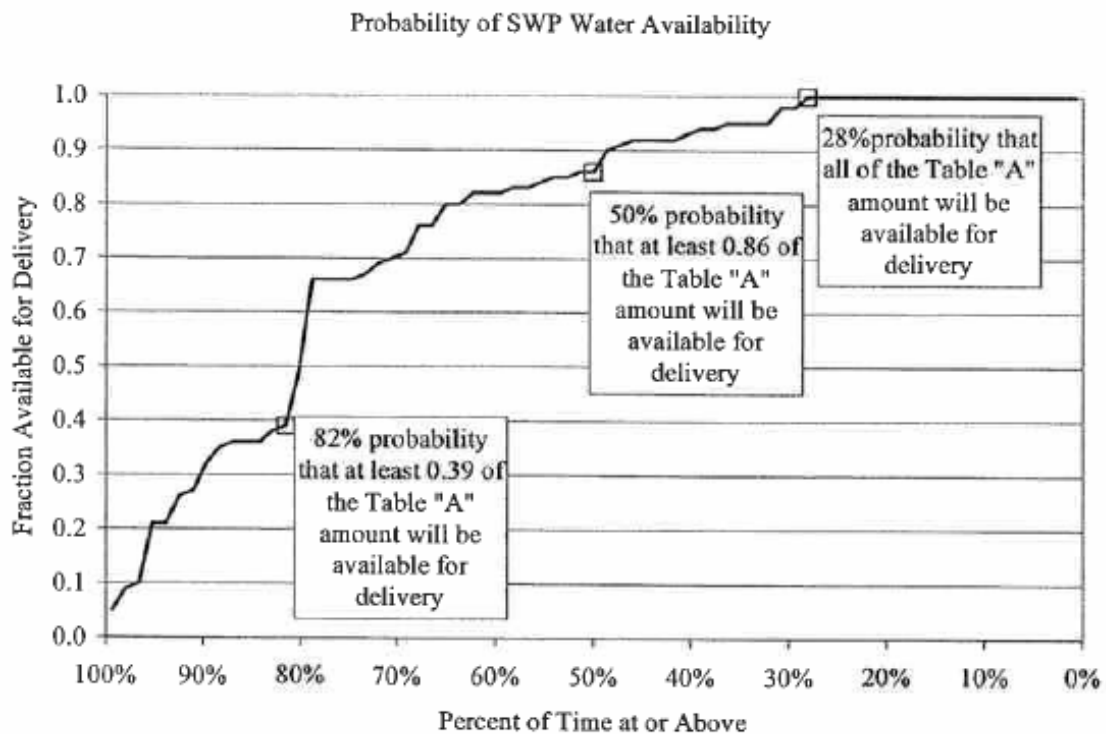
4.1.4.2 *Water Quantity*

Connecting to State Water inherently brings a question on reliability of supply. The original Water Service Agreement of the SWP had in it “Table A amounts” - the maximum a SWP participant could request in a year. In any year, the SWP allocates amounts in proportion to the Table A amounts, however the Table A amount is not guaranteed. Thus a Table A amount is not the amount of water received by an SWP customer, rather it is representative of the participant’s allocation of State Water.

As seen on Figure 4, the probability of receiving all of Table A amount is only 28 percent in any single year. On an average annual basis, the reliability is about 74 percent based on the State Water Project Delivery Reliability Report 2005. Thus many SWP contractors have established Table A amounts in excess of their actual delivery needs, and this extra amount is called a “drought buffer”. Based on recent court decisions addressing environmental issues in the Delta, where the water is pumped into the SWP system, initial SWP delivery amounts for 2008 were planned at only 25 percent of their Table A amount, and have been only recently increased to 35 percent.

Since SWP delivery amounts vary each year, it is assumed that Los Osos is likely to contract for a drought buffer in addition to 900 AFY. Contractors of State Water contract for drought buffers of various amounts and for the purposes of this technical memorandum, it is assumed that Los Osos would contract for a Table A amount of 900 AFY, and a drought buffer of 320 AFY. An average delivery of 74 percent of Table A amounts is assumed, based on the State Water Project Delivery Reliability Report 2005.

³ As per Evaluation of Supplemental Alternatives Technical Memorandum No. 1 Constraints Analysis by Boyle Engineering Corporation for the Nipomo Community Services District.



Source: The State Water Project Delivery Reliability Report 2005, April 2006

Figure 4
SWP DELIVERY RELIABILITY
 LOS OSOS WASTEWATER PROJECT DEVELOPMENT
 SAN LUIS OBISPO COUNTY

4.1.5 Cost of State Water

The cost of State Water consists of the following three components:

- Buy-in costs: This is the amount paid for the past capital improvements made by the seller. As this is a negotiated cost, it is difficult to predict the amount. However, it is likely to be on the order of \$15,000-\$20,000/AFY⁴. This would be paid for the contracted amount, or the "Table A amount".
- Annual costs: This is the amount paid for the water used in that particular year, and is estimated to be approximately \$1,180/AF⁵.
- Drought buffer costs: this is the amount paid for the drought buffer allocation and is approximately \$75/AF.

State Water Project costs are summarized in Table 2.

Table 2 State Water Cost Estimates Los Osos Wastewater Project Development San Luis Obispo County								
Mitigation	Amount of Water to be Imported ⁽¹⁾	Contractual Table A Amount	Contractual Drought Buffer Allocations	Buy-In Costs		Pipeline Costs ⁽³⁾	Annual Costs for 900 AFY ⁽⁴⁾	Annual Drought Buffer Costs ⁽⁵⁾
				At \$15,000/AFY ⁽²⁾	At \$20,000/AFY ⁽²⁾			
Level 1 - Level 3	900 AFY	900 AFY	320 AFY	\$13.5 million	\$18 million	\$2.3 million	\$1.1 million	\$24,000
Notes: (1) Assumes that the goal of importing water is to achieve mitigation to a balanced basin. (2) Range of possible buy-in costs as per phone conversation with San Luis Obispo County Public Works staff, based on an analysis sponsored by the City of Santa Maria. (3) Assumes approximate length of pipeline of 4 miles. (4) Multiplying 900 AFY by \$1,180/AF. (5) Multiplying 320 AFY by \$75/AF.								

4.1.5.1 *Cost of Pipeline⁶*

The length of pipeline from the turnout on the Chorro Valley pipeline to Los Osos is approximately 3 miles. Delivering an average of 900 AFY would require sizing the pipe for 1,120 gpm (1,800 AFY), which assumes delivery of maximum day demands with a peaking factor of 2 for average demand of 560 gpm (900 AFY). A pipeline size of 8-inch diameter is appropriate.

This diameter may vary slightly depending on the actual peaking factor required to pump during City of Morro Bay off-peak seasons, but the impact on costs likely would be minimal.

⁴ Estimate from phone conversation with San Luis Obispo County Public Works staff based on an analysis sponsored by the City of Santa Maria.

⁵ This amount reflects the average of actual costs paid by State Water Project customers on the Chorro Valley Pipeline.

⁶ These are construction cost estimates only, and do not include permitting costs, CEQA costs, design costs, and other project implementation costs.

It is also assumed at this time that AWWA PVC pipe would be appropriate for this transmission pipeline. Applying a unit cost estimate of \$110/LF⁷, and a 30 percent contingency, the cost of 3 miles of 8-inch diameter C900 PVC pipe Class 150 is \$2.3 million. Trenching, backfill, compaction, and "T" Top trench repair (paving 1 ft outside the trench on either side) are included in the per linear foot pipe cost.

These are construction cost estimates only, and do not include permitting costs, CEQA costs, design costs, and other project implementation costs.

4.1.6 Contractual Issues with Connecting to State Water

To receive State Water, Los Osos water purveyor(s) would have to enter into agreements with San Luis Obispo County Flood Control and Water Conservation District (District), but additional agreements would be needed by the District to provide it with the contractual ability to deliver SWP water to Los Osos. Particularly, District would have to negotiate agreements with Santa Barbara County Flood Control and Water Conservation District, the California Department of Water Resources, and the Central Coast Water Authority. Alternatively, acquiring the rights of existing SWP participant who was under-utilizing its allocation is possible although no interested 'sellers' are known. It is also important to note that local agencies do not control the decision making process for State Water and as a result, "local control" of the water resource is further removed. The outcome of these efforts, if pursued, is speculative at this time.

4.2 Nacimiento Water

In 1959 the San Luis Obispo County Flood Control and Water Conservation District (District) obtained the rights to 17,500 AFY water from Lake Nacimiento. On January 7, 2008, construction commenced on the 45 mile pipeline that will convey untreated water from Lake Nacimiento to Paso Robles, Templeton, Atascadero, San Luis Obispo, and County Service Area 10, Zone A (CSA 10A), which supplies water to Southern Cayucos. Figure 5 shows a map of the project.

The Nacimiento project does not serve water to CSA 10 directly via the Nacimiento pipeline. By a process of exchange, CSA 10 and the City of San Luis Obispo exchange rights to water from the Whale Rock Reservoir and the Nacimiento pipeline. Thus, the City of San Luis Obispo withdraws less water from the Whale Rock Reservoir, and compensating for this amount from Nacimiento, allows CSA 10 to withdraw that share from Whale Rock Reservoir. CSA 10A's Nacimiento water is then delivered to the City for its use.

⁷ Engineer's estimate made in 2007 for Potable Water Distribution System Upgrade for Department of Corrections and Rehabilitation, California Men's Colony, San Luis Obispo. The estimate includes a contingency of 30 percent.

4.2.1 Bringing Nacimiento Water to Los Osos

New facilities would need to be constructed to bring Nacimiento Water to Los Osos. Since facilities up to the City of San Luis Obispo are already being planned, the new facilities would have to start there.

The Nacimiento project serves raw water to its customers, and thus Los Osos would have to treat the water before it could be used for potable demand, or use the water for groundwater recharge into the lower aquifer.

While Los Osos could explore collaboration opportunities for required treatment with the City of San Luis Obispo or California Men's Colony, it was assumed in this technical memorandum that treatment would be provided by Los Osos, and thus the cost of treatment is included in the assessment of the cost of this alternative.

4.2.2 Pipeline Alignment and Connection

The proposed pipeline alignment for bringing Nacimiento water into Los Osos would connect somewhere upstream of the City of San Luis Obispo Water Treatment Plant, down Foothill Boulevard to Los Osos Valley Road and into the Los Osos system. This would require approximately an 11-mile pipeline as shown on Figure 6.

4.2.3 Environmental Impacts of Proposed Pipeline Alignment

The pipeline route shown on Figure 6 passes along Los Osos Valley Road, and along Foothill Boulevard. The route is not as environmentally sensitive as the proposed State Water Project line, and would potentially only require permits from the California Department of Fish and Game and the US Army Corps of Engineers.

4.2.4 Cost of Nacimiento Water

The City of San Luis Obispo is paying a capital cost of about \$22,000/AFY for Nacimiento Water. The Operations and Maintenance (O&M) cost for the first year is estimated to be approximately \$400/AFY⁸. It is reasonable to assume that Los Osos would pay at least the same amount of capital and O&M cost as the City of San Luis Obispo.

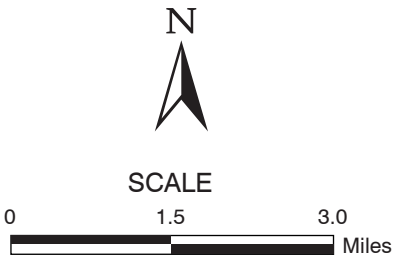
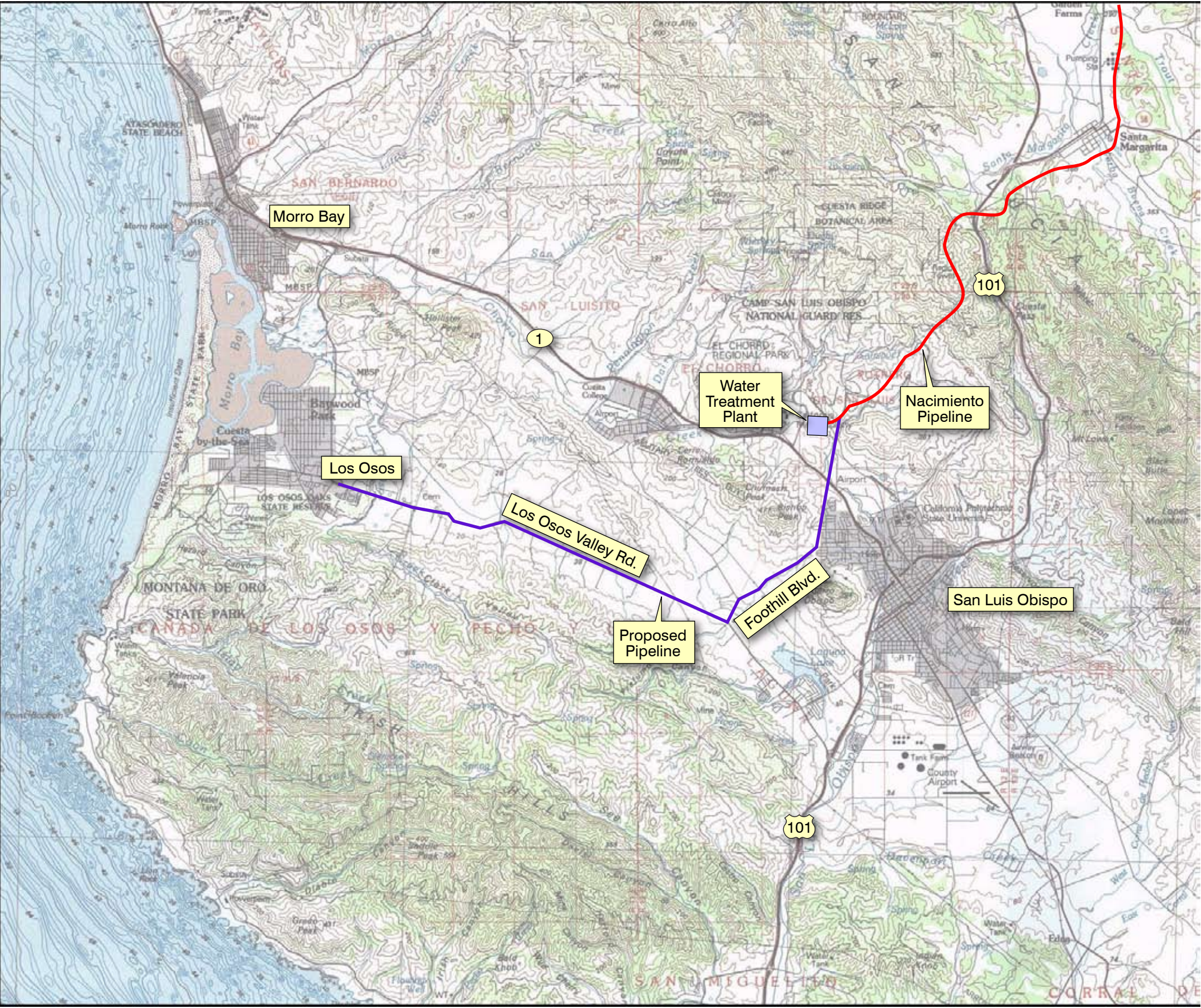
4.2.4.1 Cost of Pipeline

The length of pipeline along the proposed alignment is approximately 11 miles. Delivering an average of 900 AFY would require sizing the pipe for 1,120 gpm (1,800 AFY) which assumes delivery of maximum day demands with a peaking factor of 2 for average demand 560 gpm (900 AFY). A pipeline size of 8-inch diameter is appropriate. It is also assumed at

⁸ As per phone conversation with the Project Manager of the Nacimiento Water Project at County of San Luis Obispo.



Figure 5
UNIT MAP FOR NACIMIENTO WATER PROJECT
LOS OSOS WASTEWATER PROJECT DEVELOPMENT
SAN LUIS OBISPO COUNTY



LEGEND	
—	Nacimiento Pipeline (existing facility)
—	Alignment Alternative (new facility)

Figure 6
PROPOSED CONNECTION TO
NACIMIENTO WATER PROJECT
LOS OSOS WASTEWATER PROJECT DEVELOPMENT
SAN LUIS OBISPO COUNTY

this time that AWWA PVC pipe would be appropriate for this transmission pipeline. Applying a unit cost estimate of \$110/LF⁹ and a 30 percent contingency, the cost of 11 miles of 8-inch diameter C900 PVC pipe Class 150 is \$8.3 million. Trenching, backfill, compaction, and "T" Top trench repair (paving 1 foot outside the trench on either side) are all included in the per linear foot pipe cost.

These are construction cost estimates only, and do not include permitting costs, CEQA costs, design costs and other project implementation costs. The estimate includes a contingency of 30 percent.

4.2.4.2 Cost of Treatment Plant

Assuming that Los Osos builds its own treatment plant to treat Nacimiento water, and assuming a treatment plant of size 2 mgd (1.0 mgd average day, 2.0 mgd maximum day), and a planning level treatment plant cost of \$4/gpd, the construction cost of the treatment plant is estimated to be \$8.0 million. These are construction cost estimates only, and do not include permitting costs, CEQA costs, design costs and other project implementation costs. The estimate includes a contingency of 30 percent. An alternative could be that the raw Nacimiento water gets treated at the City of San Luis Obispo and then piped to Los Osos. In this case, costs would need to be negotiated with the City of San Luis Obispo. A second alternative could be that the water would be treated at upgraded CMC facilities and piped down the Chorro Valley pipeline.

4.2.5 Contractual Issues with Connecting to Nacimiento Water

The City of San Luis Obispo has contracted for the amount of Nacimiento Water that it needs for buildout, so the scope of negotiations to purchase some of the City's allocation of Nacimiento water might be limited at present. Also, since the participants of the Nacimiento project are obliged to pay for the full contractually agreed amount irrespective of actual demand, it is anticipated that the City of San Luis Obispo is going to use its maximum Nacimiento allotment before using other sources.

An alternative Nacimiento delivery configuration for Los Osos would be similar to that of CSA 10, by negotiating an exchange of Nacimiento contract water with the Whale Rock supply. However, the City of San Luis Obispo optimizes its water supply by applying its "conjunctive use model" which uses the flexibility of many sources to maximize supply. It also has a "multi-source water policy" which improves the reliability of its water supply by diversifying its sources. Thus any agreement which hampered the diversity of its sources, by making the City give up its use of another source (such as Whale Rock Reservoir) could defeat the purpose of having a new diversified supply in the first place.¹⁰

⁹ Engineer's estimate made in 2007 for Potable Water Distribution System Upgrade for Department of Corrections and Rehabilitation, California Men's Colony, San Luis Obispo.

¹⁰ As per telephone conversations with San Luis Obispo County Public Works staff, and the Water Division Manager of the City of San Luis Obispo.

A supplemental EIR would need to be prepared for Los Osos to receive Nacimiento water, and it would require that at least 55 percent of participating agencies agree to the proposed project. Thus participating in the Nacimiento project could prove to be a lengthy and complicated process requiring a negotiation with several parties. In addition, it would require Los Osos to get into the water treatment plant operations business.

5.0 SUMMARY

Imported water is anticipated to offset potable water demand from the groundwater basin. Consideration of State water or Nacimiento water would require a complete environmental review by the water purveyors as per the California Environmental Quality Act (CEQA). This technical memorandum summarizes the evaluation of imported water as an option for mitigating sea water intrusion (SWI) in the Los Osos groundwater basin. Imported water does not forgo the need for wastewater disposal. Therefore, to evaluate the total cost to the community for wastewater disposal and SWI mitigation, any imported water option would be paired up with a disposal option for comparison to other alternatives. The reuse projects that provide a fair comparison to imported water are those that provide seawater intrusion mitigation benefits similar to importing water by offsetting pumping on the West side of the basin. These comparable options include urban reuse and agricultural exchange (using recycled water for agricultural demand and transporting potable water from the East side to the West side, thereby offsetting pumping from the West side of the basin).

Both alternatives of importing water will involve a lengthy negotiation process that would take a considerable amount of time and effort from all involved parties. Both options would require additional facilities to be built, although Nacimiento could require a longer pipeline, and a treatment plant as compared with State water.

A cost comparison of the two alternatives is shown in Table 3. Note that these are construction cost estimates only, and do not include all contingencies, permitting costs, CEQA costs, design costs and other project implementation costs.

Notwithstanding the institutional and cost barriers to an expedient solution, public sentiment also plays a large role in the decision making process. Development could potentially be fueled by importing water into rural lands. These issues should be addressed as part of the EIR.

Table 3 Summary of Imported Water Costs Los Osos Wastewater Project Development San Luis Obispo County		
Project	State Water	Nacimiento Water
Initial costs		
Buy-in cost	\$13.5 - \$18 million ⁽¹⁾	\$19.8 million ⁽²⁾
Pipeline cost	\$2.3 million ⁽³⁾	\$8.3 million ⁽³⁾
Treatment cost	\$0	\$8.0 million ⁽³⁾
Total Initial Cost	\$ 15.8 - \$20.3 million	\$36.1 million
Annual Costs		
Cost of 900 AF ⁽⁴⁾	\$1.1 million	0.36 million
Drought Buffer Costs	\$24,000	
Total Annual Cost	\$ 1.1 million	0.36 million
Notes: (1) As per telephone conversation with County of San Luis Obispo County Works staff based on a study sponsored by the City of Santa Maria, the buy-in costs of SWP could be as high as \$15,000 to \$20,000 per AFY, and multiplying by 900 AFY. (2) As per telephone conversation with the County Project Manager for the Nacimiento project, these are the costs of Nacimiento water for the City of San Luis Obispo. (3) As per engineer's estimate, costs do not include all contingencies, permitting, CEQA, design and other project implementation costs. (4) 900 AFY is the volume of imported water required to achieve mitigation level 3 to reach a balanced basin. The annual costs are for the purchase of water only, and do not include the costs for pumping or treating the water.		